Applicants	:	William A. Skinner et al.
Application No.	:	09/603,857
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For	:	DOUBLE FLANGED BUSHINGS AND INSTALLATION METHODS
Examiner	:	Steven Blount
Art Unit	:	2616
Docket No.	:	320043.427

Dear Examiner Blount:

Thank you for the examiner interview today. Below is a proposed claim amendment to claim 25 for your review. Feel free to call me at (206) 694-4855.

Regards,
Karl

Listing of Claims:

1.-24. (Canceled)

25. A dual bushing installation comprising:

an outer metal bushing comprising a first body having a first end, an opposite end, and prior to installation, the outer metal bushing includes a single radial flange, the first end and the opposite end connected by a circumferentially seamless outer surface having an outer circumference and a circumferentially seamless inner surface having an inner circumference, the circumferentially seamless inner surface adjacent a first opening that extends through the first body, the single radial flange of the outer bushing proximate the first end of the outer metal bushing;

an inner metal bushing comprising a second body having a first end, a second end, and prior to installation, the inner metal bushing includes a single radial flange, the first end and the second end connected by a circumferentially seamless outer surface having an outer circumference and a circumferentially seamless inner surface having an inner circumference, the

circumferentially seamless inner surface of the inner bushing adjacent a second opening that extends through the second body, the single radial flange of the inner bushing proximate the second end of the inner metal bushing;

wherein the outer circumference of the inner metal bushing substantially conforms with the inner circumference of the outer metal bushing such that the inner metal bushing is closely received by the first opening of the outer metal bushing; and

wherein the inner metal bushing is rotationally and translationally fixable relative to the outer metal bushing because of a sufficient radial displacement initiated at the circumferentially seamless inner surface of the inner bushing, which provides a substantially equal, outwardly radial displacement throughout both a substantial portion of a longitudinal length of ~~both~~ the circumferentially seamless outer surface of the inner metal bushing and a substantial portion of a longitudinal length of the circumferentially seamless inner surface of the outer metal bushing.

26. (Previously Presented) The installation of claim 25 wherein the circumferences are diameters.

27. (Previously Presented) The installation of claim 25 wherein the dual-bushing installation kit is received in an opening of a structural work member.

28. (Previously Presented) The installation of claim 25 wherein the amount of radial displacement achieved at the circumferentially seamless outer surface of the outer metal bushing is dependent, in part, on the modulus of elasticity and the ultimate strength of the first and second metal bushings.

29. (Canceled)

30. (Previously Presented) The installation of claim 25 wherein the first body and the second body are cylindrical and concentric with respect to one another.

31. (Previously Presented) A dual bushing installation kit comprising:

a first metal bushing comprising a first body having first and second ends, the first and second ends connected by a first outer surface having a first outer circumference and a first inner surface having a first inner circumference, the first inner surface surrounding a first opening that extends through the first body;

a second metal bushing defined by a second body having first and second ends, the first and second ends connected by a second outer surface having a second outer circumference and a second inner surface having a second inner circumference, the second inner surface surrounding a second opening that extends through the second body;

wherein the second outer circumference dimensioned to be substantially conforming with the first inner circumference such that the second bushing is closely receivable by the first opening of the first bushing;

wherein sufficient radial displacement initiated at the second inner surface of the second body results in substantially equal displacement of both the second outer circumference and the first inner circumference in an outwardly radial direction; and

wherein the first body and the second body are elliptical, the first inner surface of the first bushing having a first elliptical profile that substantially conforms to a second elliptical profile defined by the second outer surface of the second bushing.

32. (Previously Presented) A radially, cold-expandable, dual bushing assembly comprising:

an outer metal bushing comprising a first body having a first end, an opposite end, and prior to installation, the outer metal bushing includes only one radial flange, the first end and the opposite end connected by a first circumferentially seamless outer surface and a first circumferentially seamless inner surface, the first circumferentially seamless inner surface adjacent a first opening that extends through the first body, the only one radial flange of the outer bushing proximate the first end of the outer metal bushing;

an inner metal bushing comprising a second body having a first end, a second end, and prior to installation, the inner metal bushing includes only one radial flange, the first end and the second end connected by a second circumferentially seamless outer surface and a second

circumferentially seamless inner surface, the second circumferentially seamless inner surface adjacent an opening that extends through the second body, the only one radial flange of the inner bushing proximate the second end of the inner metal bushing;

wherein the second circumferentially seamless outer surface of the inner metal bushing is receivable in and substantially conforms with the first circumferentially seamless inner surface of the outer metal bushing;

wherein the inner and outer bushings are radially expandable by a like amount when the second circumferentially seamless inner surface of the second body is radially displaced; and

wherein compressive stresses are developed in the inner metal bushing, the outer metal bushing, and in an area of a work member that receives the outer metal bushing when the second circumferentially seamless inner surface of the second body is radially displaced, the compressive stresses being sufficient to increase the fatigue life of the work member.

33. (Canceled)

34. (Previously Presented) The assembly of claim 32 wherein an amount of radial displacement of the second circumferentially seamless outer surface of the second metal bushing depends, in part, on the modulus of elasticity and the ultimate strength of the first and second metal bushings.

35. (Canceled)

36. (Previously Presented) The assembly of claim 32 wherein the first body and the second body are cylindrical and concentric with respect to one another.

37. (Previously Presented) A radially, cold-expandable, dual bushing assembly comprising:

a first, non-expanded, metal bushing defined by a first body having first and second ends, the first and second ends connected by a first outer surface and a first inner surface, the first inner surface surrounding a first opening that extends through the first body;

a second, non-expanded, metal bushing defined by a second body having first and second ends, the first and second ends connected by a second outer surface and a second inner surface, the second inner surface surrounding an opening that extends through the second body;

wherein the bushings in their non-expanded state provide for the second outer circumference dimensioned to be substantially conforming with the first inner circumference such that the second bushing is closely insertable into the first opening of the first bushing;

wherein the non-expanded bushing assembly is capable of substantially equal displacement of both the second outer circumference and the first inner circumference in an outwardly radial direction when a radial displacement is initiated at the second inner surface of the second body;

wherein compressive stresses are developed in the first bushing and compressive stresses are further developed in an area of a work member that is contiguous with and substantially surrounding the first bushing when the radial displacement is initiated at the second inner surface of the second body, the compressive stresses being sufficient to increase the fatigue life of the work member; and

wherein the first body and the second body are elliptical, the first inner surface of the first bushing having a first elliptical profile that substantially conforms to a second elliptical profile defined by the second outer surface of the second bushing.

38.-42. (Canceled)